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angular area OPQ represents, in units of square measure, the space (s), in units of linear measure, fallen through. Just as the velocity when variable can be measured, at any point, by ds/dt, the slope of the curve at that point, on a diagram in which times are abscissæ and spaces ordinates, so on a diagram in which times are abscissæ and velocities ordinates, the acceleration is measured by dv/dt, the slope of the curve. It can hardly be doubted that Galileo, knowing how areas of curves are found by the method of indivisibles, saw that when the acceleration is *variable,* the area of the figure OPQ, which is no longer a triangle, still represents s. It is also quite possible that Galileo saw in this way the inverse relation of the problems of tangents and quadratures: the ordinate (v) of any point on the st-diagram is given by calculating the corresponding area on the vt-diagram, while the ordinates on the vt-diagram are determined by the slopes or tangents at the corresponding points of the st-curve. Here we may mention that, in Galileo's mistaken assumption referred to above of the proportionality of v to s, triangles like OPQ on a vs-diagram do not represent s. It will be remembered from Mach's *Mechanics* that Galileo rejected this mistaken assumption on grounds which were also mistaken. In fact, if $v=ds/dt$, the integral of $v.dt$ is s, but the integral of $v.ds$ is not s unless v is always unity, so that a vs-diagram does not show that integration is the inverse of differentiation. The notions of time being the independent variable and geometrical curves being generated by motions were used by Isaac Barrow, who was certainly influenced by Galileo and possibly by Roberval. Barrow denoted the areas by "t" and "v," and in this notation and the ideas which it implied he was followed by his pupil Isaac Newton, who, in his "method of fluxions," greatly developed the suggestive ideas of Barrow, especially Barrow's clear perception of the truth that the problems of tangents and of quadratures were inverse problems.

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CURRENT PERIODICALS.

We hope that the increasing bulk of *Science Progress,* this "Quarterly Review of Scientific Thought, Work and Affairs," is the outward and visible sign of an increasing recognition of its interest and value. The articles in the April 1918 number are of the best and by the best. The "Essay-Reviews," the as-yet-unimitated-and-own-peculiar creation of *Science Progress* (to use the hyphenated form which gave to De Morgan many a chuckle), which combine with effect the brevity of the ordinary review and the majestic *longueurs* of the quarterly, give their writers an opportunity of using the book under discussion as a peg upon which to hang a good deal that is both relevant and urgent. The section entitled "Popular Science" has not perhaps assumed its final form. If it is a matter of popularization, it seems perhaps somewhat out of place in a periodical written by men of science for their brethren and who can manage to assimilate more solid stuff than the name would imply. On the other hand, there is a place for it if it were made to serve the function of a gibbet, so that the world at large might know the kind of nonsense that is dignified in the daily press and the magazines with the honored name of science. The "Notes" have in general a peculiar fragrance of their own, and it is easy to see in them the imprint of the wayward genius—is not all genius wayward, or is the epithet "unscientific"?—who is poet, mathematician, and savant, and who has had every reason to be out in revolt against the malignant stupidity which has characterized the attitude of the governing classes in Britain to those who have been making life possible for the white man in vast territories of the Empire, and who have been doing the work that will count the most in aid of human effort in every field of nature during the next half century. The ordinary reviews are to be counted among the best of their class. All these sections are to the good, most of them are helpful, and if irony does not always bring about the revolution desired, it plays a useful part in titillating the jaded, and in giving voice to those who have been shamefully inarticulate. But of all the features in *Science Progress* the one that strikes us as the most valuable are the forty pages or so entitled "Recent Advances in Science." There is, as far as we can recollect, nothing comparable to this section in scientific literature. Other attempts to keep the student in touch with what is going on in the world of scientific research are rather in the nature of catalogues with, at most, the shortest of summaries. But the summary is really critical, that is not mechanical but selective, that, where need be, reviews past and present and casts a penetrating eye on the future—that is what *Science Progress* gives us, and is as far as we know without a parallel. It is the exceptional value to the writer of this notice of the pages on "Recent Advances" in two of the branches dealt with month by month in this periodical, that leads him to believe that this section is of unique and permanent value.

We have left ourselves no room to deal in detail with the contents of the April number, and must content ourselves with observing that it is brimful of interest from cover to cover, and that "R. R." seems to be here, there, and everywhere, and racier than ever.